Please replace the following amended paragraphs.

*First Paragraph on page 1*

A2

The present application is related to Application No. 09/666,847 (Attorney Docket No. 017750-410), entitled "Three Color Quantum Well Focal Plane Arrays", Application No. 09/666,828 (Attorney Docket No. 017750-442), entitled "Programmable Hyper-Spectral Infrared Focal Plane Array," Application No.09/666,297 (Attorney Docket No. 017750-444), entitled "Remote Temperature Sensing Long Wavelength Modulated Focal Plane Array, Application No. 09/665,959 (Attorney Docket No. 017750-443), entitled "Clutter Discriminating Focal Plane Array," and Application No. 09/666,296 (Attorney Docket No. 017750-447), entitled "Large Dynamic Range Focal Plane Array," all filed on even data herewith. The disclosures of the above identified Patent Applications are herein incorporated by reference.

*Paragraph beginning on page 9, line 19 and ending on page 10, line 4*

A third advantageous function performed by the exemplary read out circuit of Figure 2 is the improvement of the gain and dynamic range of the read out circuit through the use of two charge wells. At long ranges with faint targets, the number of volts per electron becomes a significant factor and signal to noise ratios thus become critical. As a hot target gets closer, the need changes from the need for maximizing the noise to avoiding saturation due to the very large number of target electrons rapidly filling the charge well. The exemplary read out circuit of Fig. 2 solves this problem by augmenting the integration time through a change in the charge well capacitance. This is done via the two charge well capacitances $C_{w1}$ **200** and $C_{w2}$ **205**. Application of a gain switching voltage GN **240** switches in the smaller charge well capacitance $C_{w2}$ **205** to add another twenty decibels of dynamic range to the system's performance. A high total dynamic range performance of 128 decibels can thus be realized (68 dB small well, 40 dB integration time modulation, and 20 dB well change).

*Paragraph beginning on page 10, line 17 and ending on page 11, line 7*

Another advantageous function of the read out circuit is the elimination of electronic cross coupling. Electronic cross coupling can be avoided by having each color of the detector use its own time division multiplexer and output port. Since most electronic cross talk in time division multiplexers is capacitive, use of very low driving point impedance in the line and column process is important in holding down the temporal-spectral cross talk. This is particularly imperative in high speed applications with wide dynamic range requirements. These characteristics can be achieved through the use of the dual FET M7 **250** and push/pull operational amplifier **255**. The dual FETs **250** open or close based on time division multiplexing voltages LINE **260** or COLUMN **265**. The LINE **260** voltage is used to access a line of cells in the focal plane array and the COLUMN **265** voltage accesses a column of cells in the focal plane array. The push/pull operational amplifier **255** additionally sets the voltage gain of the output circuit to the following relationship:

$$\frac{V_o}{V_i} = \frac{R_F}{R_I(1+\frac{R_F}{R_I})} \qquad \text{Eqn. (6)}$$

The driving point impedance is further set by the resistor $R_O$ **270**.